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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,029	08/29/2001	Sang-Hyun Lee	19570-05384	9521
22918	7590	08/26/2005	EXAMINER	
PERKINS COIE LLP			TORRES, JUAN A	
P.O. BOX 2168			ART UNIT	
MENLO PARK, CA 94026			PAPER NUMBER	

2631

DATE MAILED: 08/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

09/943,029

Applicant(s)

LEE ET AL.

Examiner

Juan A. Torres

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 17 August 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: see attachment. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: _____.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attachment.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
13. ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 08/17/2005 have been fully considered but they are not persuasive.

Regarding claim 1:

The Applicant contends, "The valid data region can be expanded and also moved to match that asymmetrical jitter distribution. Advantageously, the claimed embodiments allow for adjustment of the valid data region, as defined by a leading and trailing clock, as the shape of the jitter distribution changes as well as mere shifts of the center of the distribution to the left or right."

The Examiner disagrees and asserts, that, as indicated in the previous office action in the case of the present application and in the case of the reference of Bergmann the phase shifting means output 3 sampling clocks (CLK1, CLK2 and CLK3) and contrary what the applicant indicates now, the asymmetrical jitter will force the difference between 'CLK2' 415 and 'CLK3' 416 is different as that between 'CLK1' 414 and 'CLK2' 415, and this is not the case, as indicated expressly in the previous Office Action. This is expressed for example in paragraph [0028], [0034], [0037], etc., :

"[0028].... 'CLK1' 307 and 'CLK3' 309 are advanced and delayed from 'CLK2' 308 by the time difference of 'TM' 310, respectively."

"[0036]Therefore, the phase difference between 'CLK2' 415 and 'CLK3' 416 is the same as that between 'CLK1' 414 and 'CLK2' 415"

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"[0037] ... Bundle of clocks 906 that lag 905 in phase are input to multiplexer (II) 909, where one of those is selected so that the phase difference between `CLK2` 415 and `CLK3` 416 is the same as that between `CLK1` 414 and `CLK2` 415 ..."

If the applicant means that asymmetrical jitter independently refers to CLK1 and CLK2 with CLK3, Bergmann discloses exactly the same thing with a CLK2 having the phase \emptyset_n and to CLK1 the phase \emptyset_{n+x} CLK3 the phase \emptyset_{n-y} (see figure 6 column 7 lines 13-40). Please focus in this figure, column and lines numbers.

The Applicant contends, "In marked contrast, both Bergman and Hogge disclose methods of maintaining an optimal clock position in an eye of 4 jitter distribution via fixed valid data regions. That is, the leading and trailing sample clocks that define the valid data region are pre-defined at a set and equal distance on either side of the data clock. If the valid data region, or conversely the eye opening moves, to either side then both Bergman and Hogge will make an adjustment of the valid data region as a whole in the appropriate direction to correct the phase imbalance. Disadvantageously, both Bergman and Hogge are simply not capable of adjusting the size of their valid data region."

The Examiner disagrees and asserts, that, as indicated in the previous Office Action Bergmann discloses, "For this particular example, RD1 may represent the 10% interval of the data bit, RD2 the 50% interval, and RD3 the 90% interval. Other interval values for RD1 and RD3 may be used, for example, 25% and 75%, respectively. In accordance with the teachings of the present invention, however, the middle sample value must be chosen at or near the 50% interval since this position of the data bit will

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most likely represent the correct data bit value, regardless of the initial misalignment of the clock" (column 3 line 67 to column 4 line 8); so **any values** are possible for RD1, RD2 and RD3, so not only allow asymmetrical jitter (CLK1 the phase \emptyset_{n+x} CLK3 the phase \emptyset_{n-y}), also allow displacement of the middle point independently (CLK2)). To even clarify more his position Bergmann discloses that, "It is to be noted that the data samples are not required to be uniformly spaced. For example, one embodiment of the present invention may utilize a series of five samples representing the 9, 19, 50, 80 and 85% intervals. Another embodiment may utilize a series of four samples (5, 10, 15, 20% intervals) before the midpoint (50%) and only two samples (75 and 90%) after the midpoint. This latter series of sample intervals may be especially important for situations where transmitting device-dependent noise characteristics (jitter, for example) are more likely to occur at the beginning of the data bit. **Asymmetric** sampling of the data in these situations will thus aid the phase decision circuit in establishing a valid clock phase" (column 9 lines 42-56). So it is very clear that Bergmann discloses the use of any values for the phase of any clock, so the are not fixed values, that as indicated in the previous Office Action the Applicant fails to disclose.

Bergmann also discloses that can be used more than three clocks, "Although the above description has concentrated on the utilization of three sampled data values, it is obvious that any number of sample values (greater than three) may also be used. By increasing the number of samples, additional information regarding the signal may be obtained. In particular, increasing the number of samples (to seven, for example) would aid locating the exact point of the data transition and thus decreasing the length of time

needed to align the clock phase with the data. This can be explained by referring to FIG. 5" (column 6 lines 9-18).

Regarding claim 9:

The Applicant contends, "Regarding claim 9, claim 9 specifies that "said sampling points are arranged by a predetermined order and adjustable time difference". Again, Hogge does not disclose an adjustable time difference."

The Examiner disagrees and asserts, that both Hogge and also Bergmann disclose a data recovery method for a digital data stream, comprising sampling input data at multiple points, where the sampling points are arranged by a predetermined order and adjustable time difference. For Bergmann (see above) and for Hogge he discloses regarding figure 3 that the input signal is sample at different points (decision devices) and the sampling points are arranged by a predetermined order and adjustable time difference $T-\Delta$, and $T+\Delta$.

The new claims 1-8 include new independent limitations that raise new issues that will need further consideration and/or search, therefore the amendment will not be enter.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres, Ph. D.
08-21-2005


KEVIN BURD
PRIMARY EXAMINER